

We Claim:

- 1 1. A process for motion-compensated prediction of moving images or pictures
2 using an interpolation method, said process comprising the steps of:
 - 3 a) considering past image points as well as neighboring image points in
4 the interpolation method;
 - 5 b) making a motion-compensated picture signal ($\hat{s}_{tri}(t-1)$) using past
6 image point information ($s_{tri}(t-2)$), wherein said past image point information is
7 input according to a previously determined motion vector thereof; and
8 c) inserting said past image point information of the motion-compensated
9 picture signal ($\hat{s}_{tri}(t-1)$) in an interpolation raster between image points of a
10 reference picture ($s'(t-1)$).
- 1 2. The process as defined in claim 1, further comprising producing an
2 intermediate picture ($s_e(t-1)$) from said reference picture ($s'(t-1)$) by increasing
3 scanning rate, wherein intervening image points between said image points of
4 the reference picture ($s'(t-1)$) form said interpolation raster, filling said
5 intervening image points by marker values (m) and replacing said marker values
6 (m) at locations where said past image point information for the motion-
7 compensated picture signal ($\hat{s}_{tri}(t-1)$) is present.

1 3. The process as defined in claim 2, wherein said marker values (m) that are
2 not replaced by said past image point information of the motion-compensated
3 picture signal ($\hat{s}_{tri}(t-1)$) are replaced by locally interpolated image points.

1 4. A device for motion-compensated prediction of moving images or pictures
2 using an interpolation method, said device comprising means (1) for increasing a
3 scanning rate of a reference picture, means (4) for a recursive motion
4 compensation of the reference picture with an image memory (2) for past image
5 point information; a merging module (3) for including motion-compensated image
6 point information in an interpolation raster between image points of the reference
7 picture.

1 5. The device as defined in claim 4, further comprising an interpolation stage (5)
2 for local interpolation of intervening image points of an interpolation raster not
3 already occupied in said merging module (3).

1 6. The device as defined in claim 4 or 5, wherein said means (4) for a recursive
2 motion compensation of the reference picture includes a picture memory (6) and
3 means for preparing a count index for each newly entered one of said image
4 points in said picture memory (6), and, when one of said image points has a
5 value of said count index corresponding to a predetermined dwell time limit, said
6 one of said image points is removed from said picture memory (6).

- 1 7. The device as defined in claim 4, containing a time-recursive interpolation
- 2 filter.